



Increase your performance and flexibility with the highly configurable REU.



The GE Aviation Remote Electronics Unit (REU) addresses a number of actuation control requirements including primary flight, high lift, spoiler, steering, feel, and utility systems. The primary function of the REU is to perform remote closed loop control, either as a slave to a higher level system or as an autonomous computer. The REU can also be used as a high integrity data concentrator.

Flexibility and configurability

The REU family incorporates flexibility and re-configurability features similar to those of GE's highly successful Remote Interface Unit (RIU) products. GE's proprietary "programmable linear sequencer" techniques are used so that the overall REU functionality is configured by changing data tables only (i.e., without the need for hardware re-design).

Low cost

The use of data tables minimises the cost to implement customer changes. REUs can be shipped with multiple data tables; external configuration pins are used to select the appropriate data table. A single part number REU can therefore be used to cover multiple applications, reducing cost of ownership. The REU uses flexible generic interfaces designed to suit a wide range of common aircraft sensors and effectors. More specialised interfaces can be provided upon request.

High integrity design

All REUs are based around a command/monitor sub-channel architecture. The command sub-channel generates the actuator drive output. The monitor sub-channel monitors the operation of the command sub-channel and can inhibit the drive output in the event of a disagreement. In addition to this command/monitor architecture, REUs can be supplied as single channel or dual channel LRUs. The REU is based around Application Specific Integrated Circuit (ASIC) technology rather than a commercial microprocessor. ASIC development is to RTCA/DO-254 Design Assurance Level A.

High performance

The REU hardware architecture supports a much higher processing throughput than traditional microprocessor based designs. The REU has been designed to support processing frame rates in excess of 1 kHz. The REU can deliver high accuracy over a -55 °C to +100 °C ambient temperature range.

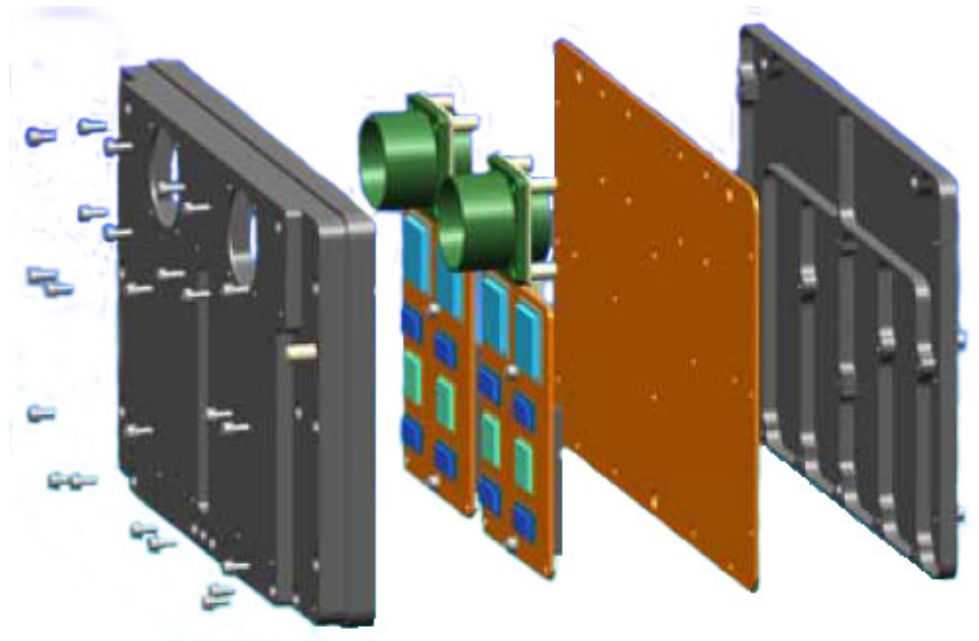
Key Features

- Multiple applications:
 - slave closed loop controller
 - autonomous computer/closed loop controller
 - high integrity data concentrator
- Based around GE proprietary 'Programmable Linear Sequencer' ASIC technology
 - application specific functions configured by data tables
 - avoids hardware re-design when implementing changes
 - same part number for multiple applications
 - high 'processing' throughput
- Designed to interface to a wide range of aircraft sensors including:
 - R/LVDT
 - potentiometer
 - resistance bridge
 - synchro
 - voltage drive
 - current drive
 - pulse probe
 - 28 V switch
 - ground switch
- Can be adapted for more specialised interfaces if required
- Nominally 0-8 mA or ± 8 mA current drive to servo valve
 - other types of output such as voltage, frequency, PWM, etc., can also be accommodated
- ARINC 429, CAN, and RS-485
 - other databus interfaces available
- High integrity active/monitor architecture
- Designed for operation in hostile environment -55 °C to +105 °C

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Specifications - REU

| | |
|----------------------|---|
| Weight | 0.8lb (single channel) |
| Dimensions: | 4 in x 5 in x 0.8 in (single channel) |
| Power: | 28 V d.c. typically 3 W (single channel) |
| MTBF: | 200,000 hours (single channel) |
| Environment: | RTCA/DO-160D or MIL-STD-810F/ MIL-STD-461E if required |
| Software: | N/A |
| Complex hardware: | Developed to DO-254 Level A |



Dual channel REU
(MIL-C-38999 connectors)

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